Commonwealth of Kentucky
Division for Air Quality

PERMIT STATEMENT OF BASIS

Conditional Major Draft NO. F-01-020
ALCOA AUTOMOTIVE CASTINGS
HAWESVILLE, KY.
SEPTEMBER 12, 2003
BRIAN SMITH, REVIEWER
PLANT I.D. # 021-091-00023
APPLICATION LOG # 53672

SOURCE DESCRIPTION:

Alcoa Automotive Castings in Hawesville, Kentucky is an aluminum foundry that produces forged and cast aluminum parts for automotive industries. The facility is comprised of a Casting Area and a Forging Area in one building, and also a Foil Building containing two additional reverbatory furnaces. The facility melts aluminum ingots purchased from outside suppliers, customer returns, and internal scrap in order to produce parts through a variety of operations.

Alcoa has been operating under two separate permits: one permit for the Casting and Forging areas, and another permit for the Foil Building. They are requesting a consolidation of these permits into a single source-wide conditional major permit. Alcoa will take federally-enforceable emission limits to keep potential emissions of triethylamine , hydrochloric acid, and total HAP's below major source thresholds.

COMMENTS:

GROUP 1 EMISSION POINTS: REVERBERATORY FURNACES
Each emission point is a natural gas-fired reverberatory furnace. Emission points 1, 18, and 19 (located in the Casting Building) each melt 2 tons/hour of clean charge, internal scrap, and clean customer returns. Emission points F06 and F07 (located in the Foil Building) each melt 2.3 tons/hour of clean charge, internal scrap, and customer returns. Reactive salt fluxing is performed in each furnace. The rated heat input capacity of furnaces 1, 18, and 19 is 8.8 mmbtu/hour each, and furnaces F06 and F07 are each rated at approximately 10 mmbtu/hour heat input. As defined in 40 CFR Part 63, Subpart RRR, each reverberatory furnace is considered a group 1 furnace (defined at 40 CFR 63.1503) if they utilize reactive fluxing depending on the types of materials charged to each furnace. At this time Alcoa is requesting to opt-out of the 40 CFR 63 Subpart RRR area source requirements by charging only materials that would be allowed such that the area source requirements would not be applicable. Should Alcoa need to revise this opt-out status, both the State and the EPA will be properly notified.

Pollutants emitted:
PM, PM10, VOC, HCl, HF, CO, SO_2, NO_x

Applicable Regulations:
401 KAR 52:030, Federally-enforceable permits for non-major sources, applies to HCl emissions.
401 KAR 59:010, New process operations, applies to particulate matter and visible

emissions.
401 KAR 63:020, Potentially hazardous matter or toxic substances, applies to HCl and HF emissions.
401 KAR 53:010, Ambient air quality standards, applies to HF emissions.

Type of controls: None

GROUP 2 EMISSION POINTS: CASTING OPERATIONS AND HOLDING FURNACES

This group of emission points consists of electrical holding furnaces and electrical VRC/PRC casters. This equipment receives molten metal from the reverberatory furnaces. In the holding furnaces, fluxing and alloying of the molten metal are performed. The casters cast the molten metal into small automobile parts using non-VOC and non-HAP based lubricants.

Pollutants emitted:
PM, PM10, Manganese, Nickel, Lead, HCl, HF, VOC, SO_2

Applicable Regulations:
401 KAR 52:030, Federally-enforceable permits for non-major sources, applies to HCl emissions.
401 KAR 63:020, Potentially hazardous matter or toxic substances, applies to HCl, HF, Mn, Ni, and Pb emissions.
401 KAR 53:010, Ambient air quality standards, applies to HF emissions.

Type of controls: None

GROUP 3 EMISSION POINTS: CORE MAKING PROCESS

Laempe core making equipment is utilized to make sand based cores for aluminum parts casting operations within the facility. The core making process is controlled by an acidic scrubber that controls emissions of triethylamine (TEA). The controlled emissions of TEA will be released from the scrubber outlet stack. The scrubber is only operating whenever TEA is used in the core making process. Whenever TEA is not used in the core making process, the scrubber is not operating, and the emissions from the process are released into the general in-plant environment.

Pollutants emitted:
VOC, TEA, PM, PM10

Applicable Regulations:
401 KAR 59:010, New process operations
401 KAR 63:021, Existing sources emitting toxic air pollutants

Type of controls: acidic scrubber controls TEA emissions

EMISSION AND OPERATING CAPS DESCRIPTION:

Alcoa will have the following emission caps incorporated into their permit to aviod Title V permitting:

Hydrochloric acid: 9.4 tons/year
Triethylamine: 4.7 tons/year
Combined HAP's: 22.5 tons/year

CREDIBLE EVIDENCE:

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has not incorporated these provisions in its air quality regulations.